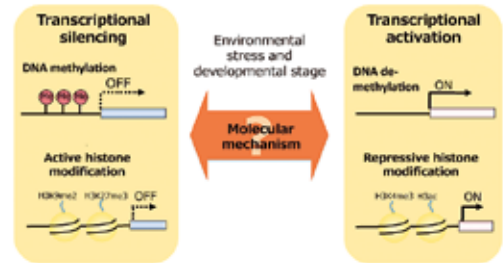


## Epigenetic regulation mechanisms of gene and transposon expression in plants

Genetic information is encoded in DNA base sequences. However, epigenetic information outside of the DNA sequence also has been found to play an important role in gene and transposon expression. Such epigenetic information including DNA methylation and histone modification is known to be affected by the stage of growth and changes in the environment. My research interests are: i) the molecular mechanism that controls epigenetic status in plants; ii) the ways in which epigenetic information is transmitted to the next generation; and iii) the study on the variety and the change of epigenetic regulation systems in plant evolution.

### Epigenetic regulation of gene and transposon expression



## Analysis of transcriptional gene silencing mechanism in Arabidopsis

To reveal the mechanism of epigenetic gene silencing, we did mutant screening affecting transcriptional gene silencing in *Arabidopsis thaliana*, and recently identified new factors for transcriptional gene silencing. *Arabidopsis thaliana* is useful material for genetic analysis, but we also utilize several plant species for research e.g. barley, seaweed, and liverwort *Marchantia polymorpha* to analyze the function of epigenetic regulation in plant evolution.



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